
# Virginia GISData Portal Publishing - Quick Start Guide
# Loading and Managing Metadata

**Version 1.0** March 2008

# Revision History

| Version | Date | Description | Author |
|---|---|---|---|
| 0.5 | 27Jun07 | Modified ESRI user manual | Lyle Hornbaker |
| 0.55 | 2Jul07 | Added ArcGIS use | Lyle Hornbaker |
| 1.0 | 20Mar08 | Limited to publishing functions only | Lyle Hornbaker |

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**Section** **Page**

# Part I: Using the Virginia GISData Portal

# 1.0 Publishing Content to the Virginia Metadata Portal

## 1.1 Publishers

Publishers can create, upload, and manage their metadata records in the GIS portal repository. Publishers maintain their metadata records and must ensure that the data services referenced in their metadata are current and accessible for portal-related purposes.

Publisher functions include the following:

Create Metadata
Upload Metadata
Manage My Metadata

Publishers have the above functionality in addition to the functions of the anonymous user and registered user (refer to the Virginia GISData Portal User Guide, available on the Portal Usage channel at GISData.Virginia.gov, for anonymous user and registered user functionality). To publish metadata, you must first register as a GIS portal user and be granted Publisher status by your portal administrator. If you do not already have a user account, you can create a new account from the GIS portal home page.

Tip: Only local governments, agencies of the Commonwealth of Virginia and Virginia institutions of higher education are eligible to post metadata to the portal.

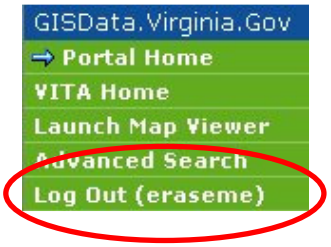
### 1.1.1 Login

1. Type your user name and password in the fields provided in the table of contents.
2. Click Login.

   Once you are logged in, you will see your publisher functionality under the section My Functions.


**Figure 1: Publisher Function List**

3. To log out, click the Log Out link in the table of contents.

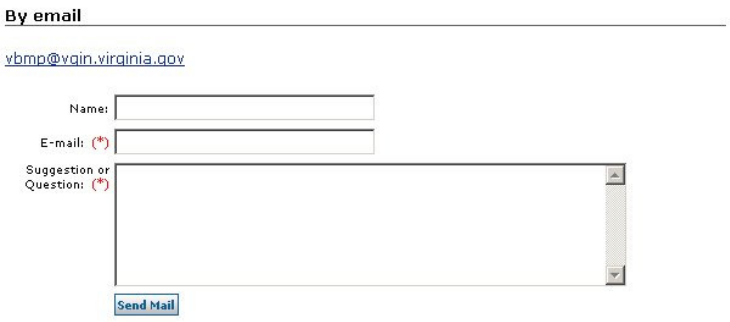


Request Publisher Status

1. To request publisher status, click Contact Us at the bottom of the home page.


   The Contact Us page opens.

2. Complete the "By Email" form at the bottom of the page. A valid e-mail address is required. Please state that you would like to become a publisher and include the name your eligible state agency or local government in the Comment area. You need to include your name, title and a contact phone number.
3. Click Send Mail to submit your nomination to the portal administrator.



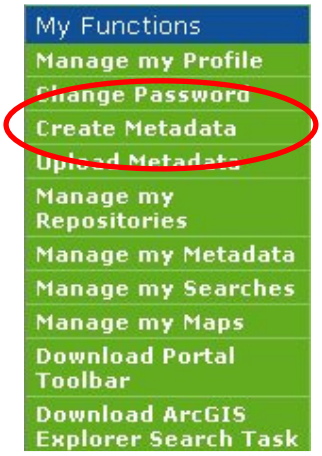

   A confirmation message displays to indicate that your feedback was submitted.


Tip: You do not need to log in to send feedback to the portal administrator.

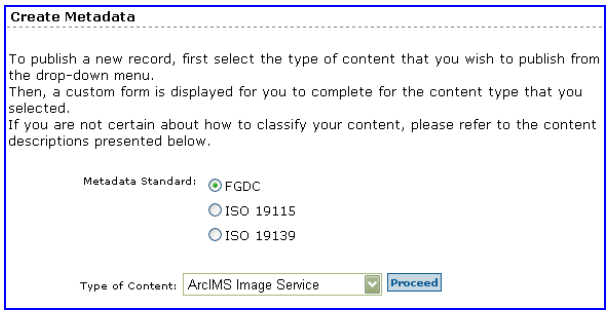
## 1.2 Create Metadata

The Create Metadata function allows you to create metadata records that follow the FGDC, ISO 19115, or ISO 19139 standard metadata profiles by using an online form. This method is

an alternative to loading XML metadata records created externally. The information captured by the online form is used to support portal discovery and other functions and to create an XML record that captures information in conformance with the metadata standard profile option that has been selected.




1. Log in to the portal.
2. Click Create Metadata in the table of contents. The Create Metadata dialog box opens.
3. Select a metadata standard (FGDC, ISO 19115, or ISO 19139).
4. Select the content type from the Type of Content drop-down menu. Content type is the type of data to be described.
5. When you have selected the metadata standard and type of content, click Proceed.




The online Content Registration form appears. Also included on this page are definitions for each of the content types.

Tip: For WMS, WFS, and WCS services, there is an additional field for Get Capabilities on the Content Registration form. Follow the steps below if you select any of these services:

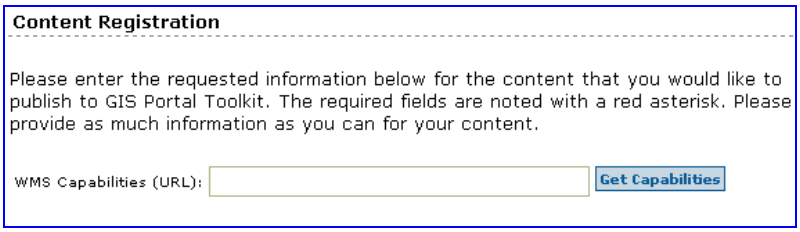
WMS

a. Select a metadata standard (e.g., FGDC).
b. Select WMS Image Service from the Type of Content drop-down menu.
c. Click Proceed.

   The Content Registration form appears.

d. Enter the WMS capabilities URL in the field provided.

e. Click Get Capabilities.




WFS

a. Select a metadata standard (e.g., FGDC).

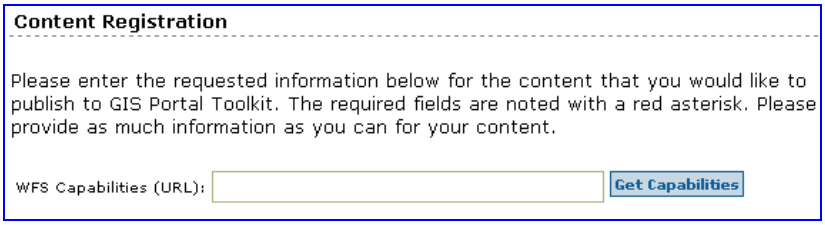
b. Select WFS Vector Data Service from the Type of Content drop-down menu.

c. Click Proceed.

The Content Registration form appears.

d. Enter the WFS capabilities URL in the field provided.

e. Click Get Capabilities.




WCS

a. Select a metadata standard (e.g., FGDC).

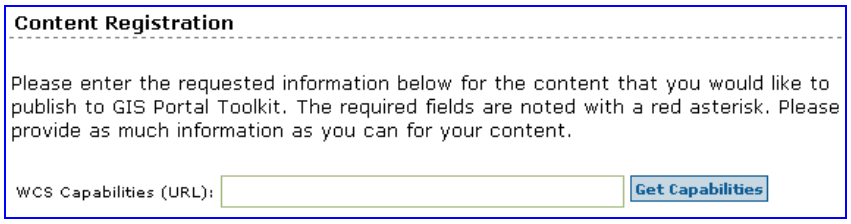
b. Select WCS Coverage Data Service from the Type of Content drop-down menu.

c. Click Proceed.

The Content Registration form appears.

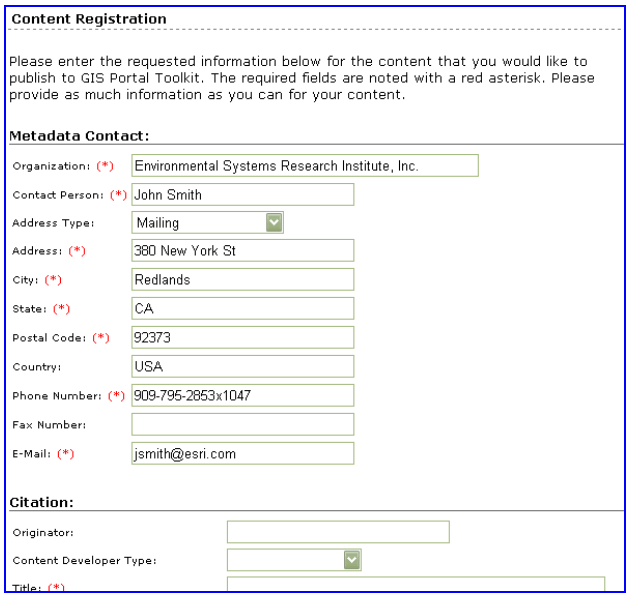
d. Enter the WCS capabilities URL in the field provided.

e. Click Get Capabilities.




6. At a minimum, fill in the required fields. The required fields are designated with a red asterisk (*). Required metadata fields include the following:

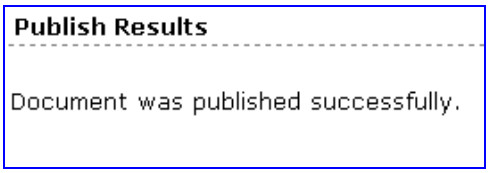
| | |
|---|---|
| Metadata Contact Organization | Map Service Name |
| Metadata Contact Person | Map Server URL |
| Address Type (required for FGDC metadata only) | Abstract |
| Metadata Contact Address | Purpose |
| Metadata Contact Country | Bounding Coordinates |
| Metadata Contact Phone Number | Data Theme |
| Metadata Contact E-mail | Distribution Organization |
| Title | Distribution Contact Person |
| Publisher | Distribution Contact Phone Number |
| Publication Date (YYYMMDD) | Distribution Contact E-mail |




Tip: Selected contact information fields are automatically populated with information from the personal profile associated with your user account. If your profile does not contain contact information, you must enter this information on the online form when you create metadata.

7. Click Submit Metadata Registration to publish your metadata. You can also click Cancel to cancel the metadata registration.

   The Publish Results message will appear and inform you that your document was published successfully.



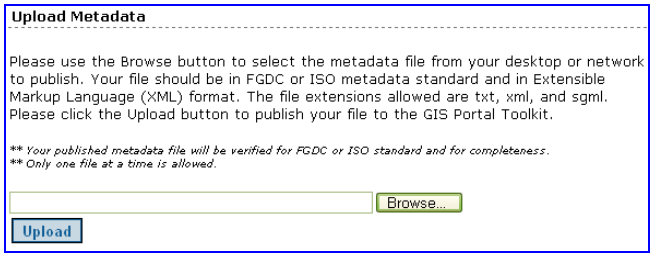

## 1.3 Upload Metadata

The Upload Metadata function allows you to post metadata that you have previously created using a mechanism other than the online form.

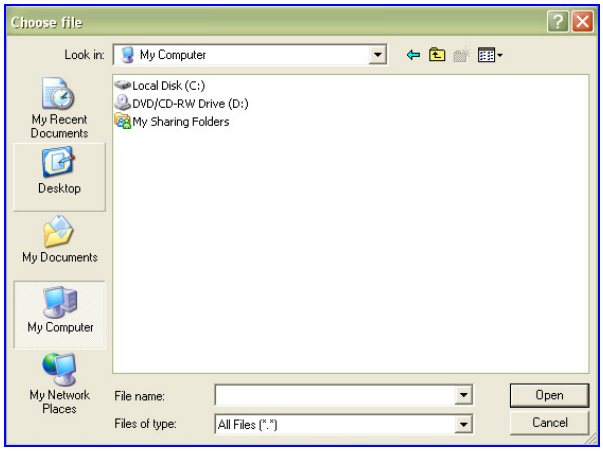
1. Log in to the portal.

2. Click Upload Metadata in the table of contents.

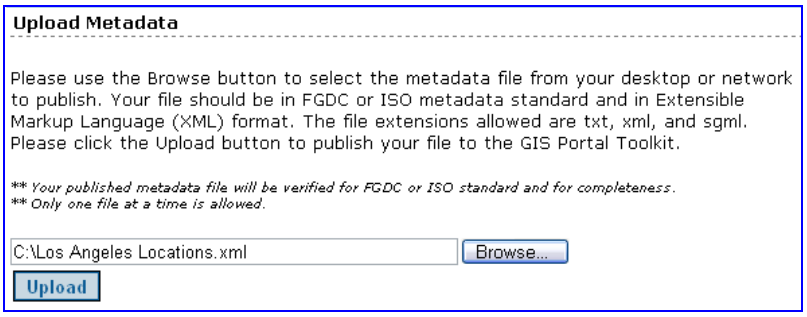

The Upload Metadata dialog box appears.




3. Click Browse to locate the metadata file to upload.
4. The Choose file dialog box opens and allows you to search your local machine or network for the metadata file.
5. Click Open when you have located the file you want to upload.



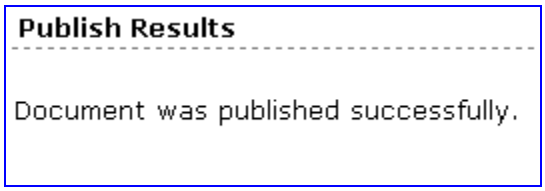
6. The Choose file dialog box closes, and your file location is populated in the Upload Metadata dialog box Browse field. Alternatively, you can type in the file location in the Browse field.




7. Click Upload to upload the selected file.

Tip: Your file must have the extension .txt, .xml, or .sgml to upload to the GIS portal. The HTML format is not supported at this time.

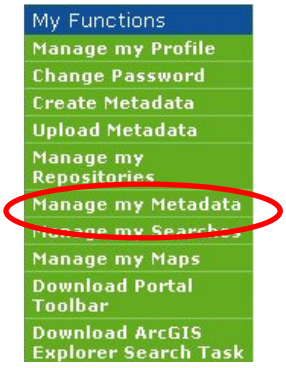
The Publish Results message will confirm that your document was published successfully. If an error occurred during the publishing process, you will receive an error message.



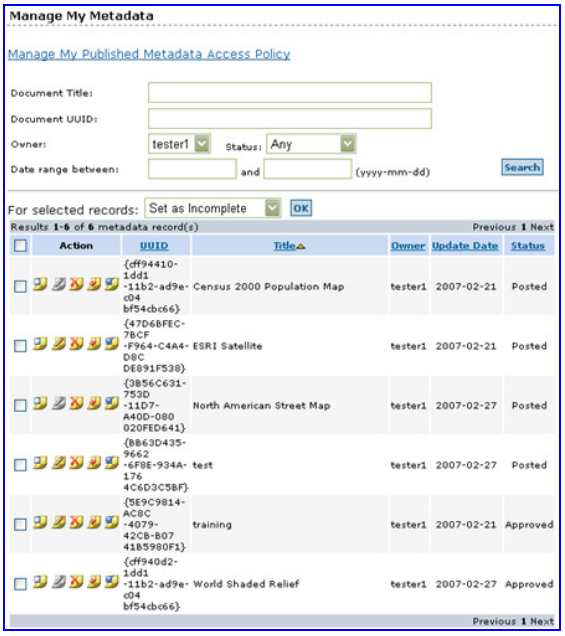

## 1.4 Manage My Metadata

The Manage my Metadata function allows you to manage your metadata online, review any metadata records you have published, monitor activity for each record, view its status, and modify metadata content for those documents that you created using the online form.

1. Log in to the portal.
2. Click Manage my Metadata in the table of contents.



The Manage My Metadata dialog box appears.




For each metadata record, you will see a series of action icons, a universally unique identifier (UUID), title, owner, update date, and status.

For each metadata record, the action icons are as follows:

| | |
|---|---|
| View | The View tool allows you to see, in a separate window, the URLs defined in your detailed metadata record are still valid. You can only view one at a time. |
| Update | The Update tool allows you to update the content of selected metadata records that are part of your collection. Only documents that were created using the online form will have this action icon enabled. |
| Delete | The Delete tool allows you to delete the selected metadata records from your collection. |
| Download | The Download tool allows you to download the stored metadata record in XML format to the local hard disk. |
| Check Online Status | The Check Online Status tool allows you to check whether the URLs defined in the metadata record are still valid. |

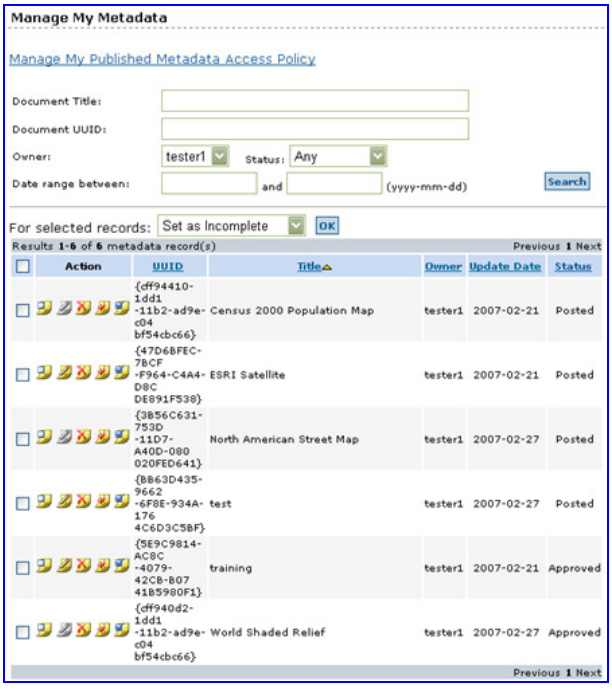
Tip: All newly submitted records in the GIS portal are automatically assigned the status of Posted. Both the GIS portal administrator and the owner of the metadata record can see the metadata content through the manage metadata screens. However, metadata is only searchable via the portal when the portal administrator sets the metadata status to Approved. Additionally, approved metadata can only be searched and viewed by users with the proper credentials (e.g., granted access by the publisher).

### 1.4.1 Search Master List of Metadata

The Manage my Metadata functionality displays the master list of the metadata records that have been published by a given publisher. You can shorten the list by using the search criteria section at the top of the master list.

1. Log in to the portal.
2. Click Manage my Metadata in the table of contents.

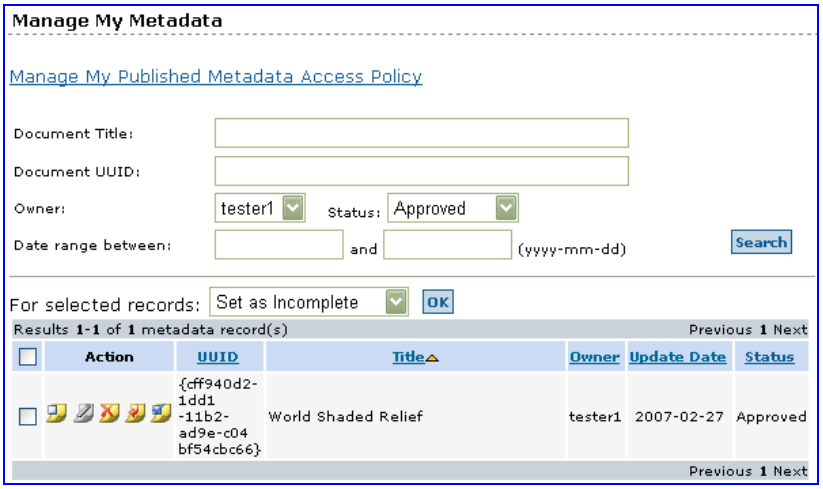

The Manage My Metadata dialog box appears.




3. To filter through the master list of metadata, enter your search criteria. You can search by one or more of the following: document title, document UUID, owner, status, or date range. By default, the Owner drop-down list will have only one available option—your account name.

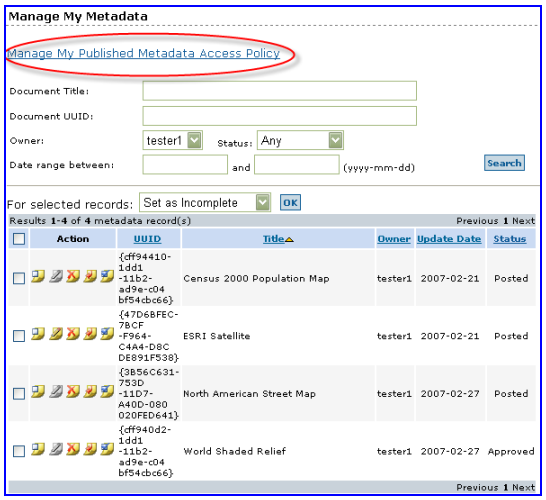
4. Click Search to filter the metadata master list based on your search criteria (e.g., Approved status).

   The Manage My Metadata dialog box refreshes. The metadata that matches your search parameters is displayed.




### 1.4.2 Metadata Access Policy

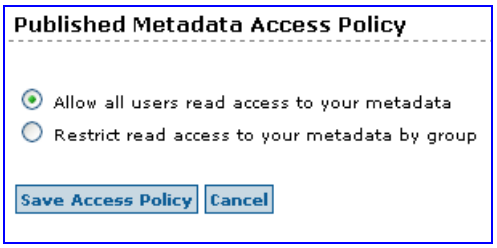
1. Log in to the portal.
2. Click Manage my Metadata in the table of contents.
   The Manage My Metadata dialog box appears.
3. Click Manage My Published Metadata Access Policy.



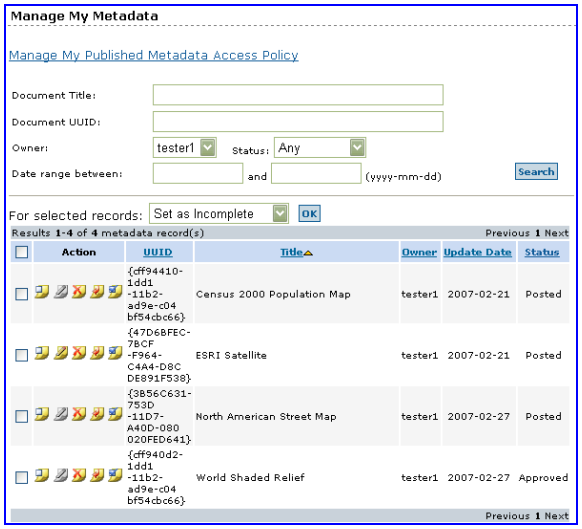

4. The Published Metadata Access Policy dialog box appears. Choose either Allow all users read access to your metadata or Restrict read access to your metadata by group.

### *1.4.2.1 Allow Read Access*

1. In the Published Metadata Access Policy dialog box, select Allow all users read access to your metadata.
2. Click Save Access Policy to save your metadata access permissions. Click Cancel to cancel any changes.




Whether you click Save Access Policy or Cancel, you will return to the Manage My Metadata dialog box.

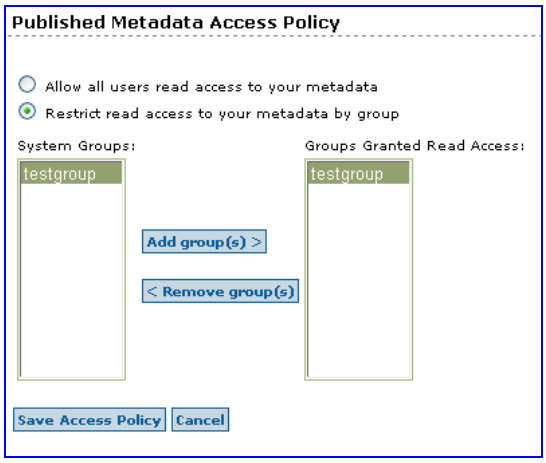



### *1.4.2.2 Restrict Read Access*

1. In the Published Metadata Access Policy dialog box, select Restrict read access to your metadata by group.

   The dialog box will populate additional fields required to restrict read access.
2. Click a group name from the System Groups box and click Add group(s) to move that group into the Groups Granted Read Access box.

3. Click a group name from the Groups Granted Read Access box and click Remove group(s) to remove that group from the Groups Granted Read Access box.




4. Click Save Access Policy to save your metadata access permissions. Click Cancel to cancel any changes. Whether you select Save Access Policy or Cancel, you will return to the Manage My Metadata dialog box.

## 1.5 For Further Information

Now that you understand the role of publishing metadata to your GIS portal, the following resources provide in-depth information regarding metadata.

**ArcGIS 9.2**

Importing and exporting metadata with ArcCatalog
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Importing_and_exporting_metadata_with_ArcCatalog

Data management with ArcCatalog
http://webhelp.esri.com/arcgisdesktop/9.2/body.cfm?tocVisable=0&ID=2406&TopicName=About%20metadata

Editing metadata
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Editing_metadata

Metadata publishing requirements to an ArcIMS Metadata Service
http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Requirements_for_publishing_metadata_to_an_ArcIMS_Metadata_Service

Overview of OGS and ISO support
http://webhelp.esri.com/arcgisdesktop/9.2/body.cfm?tocVisable=1&ID=4369&TopicName=Overview%20of%20OGC%20and%20ISO%20support

### ArcGIS 9.1

Importing and exporting metadata
http://webhelp.esri.com/arcgisdesktop/9.1/index.cfm?ID=128&TopicName=Importing%20and%20exporting%20metadata&rand=823&pid=121

Editing metadata
http://webhelp.esri.com/arcgisdesktop/9.1/index.cfm?TopicName=Editing_metadata

Metadata synchronization
http://webhelp.esri.com/arcgisdesktop/9.1/body.cfm?tocVisable=-1&ID=-1&TopicName=Metadata%20synchronization

Metadata publishing requirements to an ArcIMS Metadata Service
http://webhelp.esri.com/arcgisdesktop/9.1/index.cfm?ID=133&TopicName=Requirements%20for%20publishing%20metadata%20to%20an%20ArcIMS%20Metadata%20Service&rand=207&pid=121

### ArcIMS

ArcIMS metadata resources
http://support.esri.com/index.cfm?fa=knowledgebase.techarticles.gateway&p=16&pf=789

WMS and WFS Connectors for ArcIMS
http://support.esri.com/index.cfm?fa=knowledgebase.techarticles.browseFilter&p=86&pf=0

### Additional Resources

Metadata and GIS, ESRI White Paper, October 2002
http://www.esri.com/library/whitepapers/pdfs/metadata-and-gis.pdf

Converting HMTL metadata to formatted text
http://support.esri.com/index.cfm?fa=knowledgebase.techArticles.articleShow&d=23071

User forums for ESRI software
http://support.esri.com/index.cfm?fa=forums.gateway

# 2.0 Using ArcGIS with the Portal

It is possible to use ArcGIS to publish your metadata directly to the Virginia Metadata Portal but you must have publishing privileges. Please see page 4-1 for information on how to request publishing privileges. Once you have those privileges you must add the portal as a web service in ArcCatalog.

## 2.1 Preparing ArcCatalog for Using a Web Service

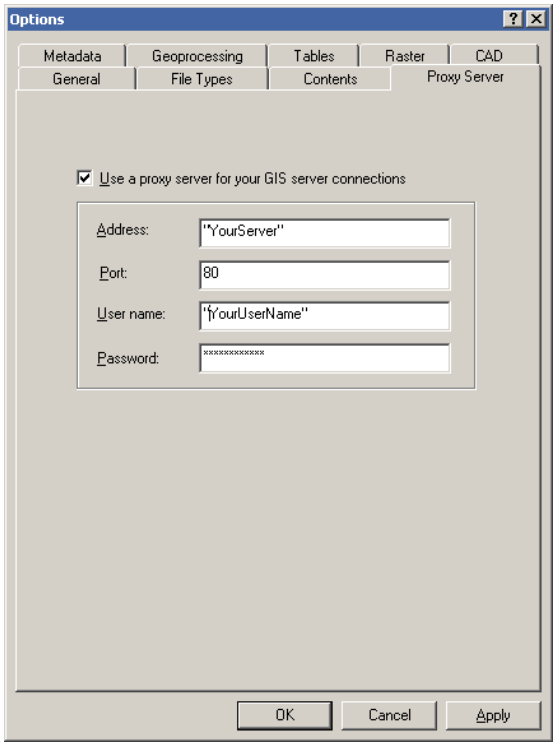
The Virginia Metadata Portal is an ArcIMS web service that requires a username and password.

If you have never used an ArcGIS web server and your organization uses an Internet proxy server, you will need to set those parameters in ArcCatalog

1. Open ArcCatalog.

2. Go to Tools>Options>Proxy Server

3. Click the "Use a proxy server for your GIS server connections" box and fill in the appropriate parameters. The portal uses Port 80 as a connection so if you don't know the proper parameters you could try the proxy parameters set in Internet Explorer. The username and password are only required if needed by your proxy.

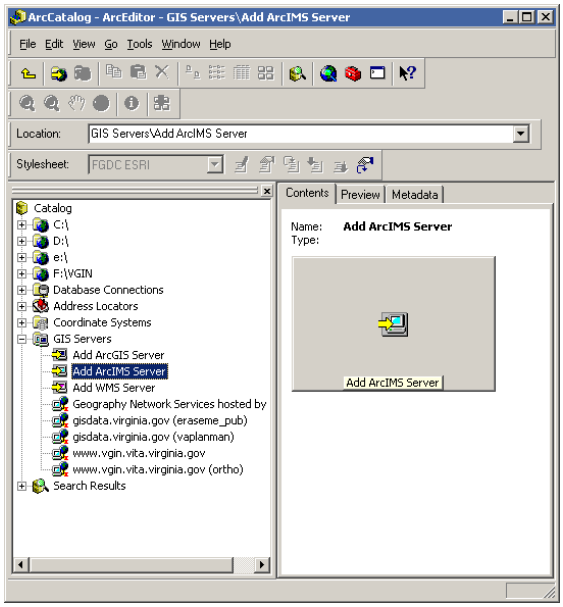


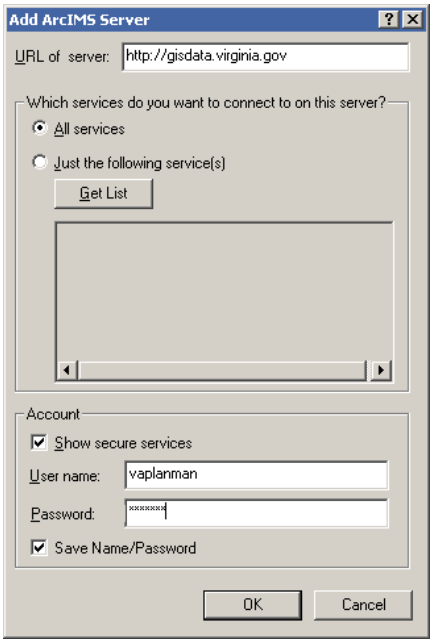
## 2.2 Adding the Portal Publishing Service to ArcCatalog

1. Open ArcCatalog.

2. Expand the GIS Servers in the Table of Contents

3. Double click on "Add an ArcIMS Server" to open the "Add ArcIMS Server" dialog box.




4. Click "Show Secure Services"

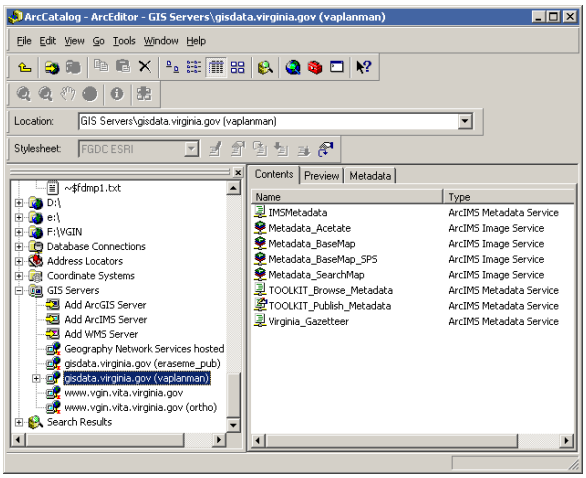
5. Enter the url http://gisdata.virginia.gov

6. Enter the User Name and Password of the Publisher that will be loading metadata.

7. Click OK

The server will now be listed under GIS Servers.

## 2.3 Drag and Drop Metadata Publishing

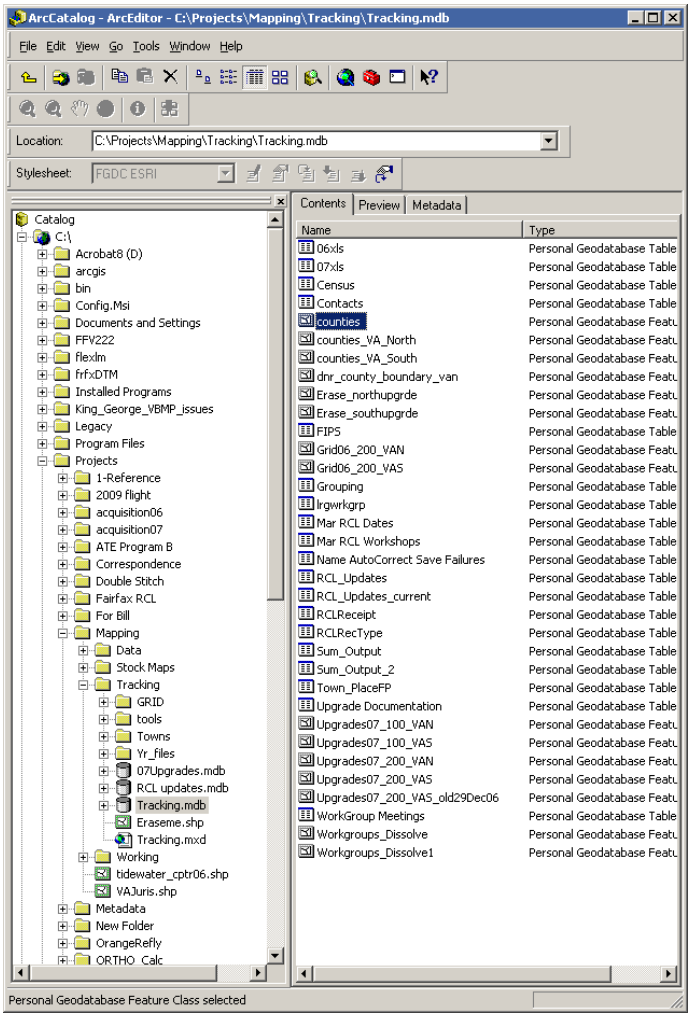



1. Open ArcCatalog.

2. Expand the GIS Servers in the Table of Contents so that you can see the service labeled "TOOLKIT_Publish_Metadata"

3. Use the Table of Contents to navigate to the layer, shapefile or other spatial data that has an xml metadata file associated with it.

4. Click and drag the spatial data layer down to the Publish service. The portal will find the metadata associated with the layer and load it into the portal.




All metadata files loaded onto the server must be manually approved by a portal administrator. They will not show in any search until approved. You can see the current status of any file you have uploaded by using the "Manage My Metadata" feature of the portal itself. See page 4-8 for more information on the subject.

# Part II: Appendices

# Appendix A: —Glossary of Terms

| | |
|---|---|
| Administrator | Administrators are gatekeepers of the GIS portal. The administrator reviews and approves posted metadata, upgrades registered users to publisher status, creates channels, assigns stewards to channels, harvests metadata from other clearinghouses, and determines user access permissions. |
| Anonymous User | Anonymous users are not required to log in to the GIS portal to use some of its key functions. This group can access the public functions of the portal including basic and advanced searches, creating and viewing maps, and viewing results and metadata records. |
| ArcCatalog | ArcCatalog is a shared ArcGIS application that allows you to organize and access all GIS information such as maps, globes, datasets, models, metadata, and services. |
| ArcGIS Explorer | ArcGIS Explorer (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=116) is a lightweight desktop client for ArcGIS Server (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=66). It can be used to access, integrate, and utilize GIS services, geographic content, and other Web services. |
| ArcIMS | ESRI software that allows for centrally hosting and serving GIS maps, data, and applications for use on the Internet. The administrative framework lets users author configuration files, publish maps, design Web pages, and administer ArcIMS spatial servers. ArcIMS (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=16) supports Windows, Linux, and UNIX platforms and is customizable on many levels. |
| ArcMap | ArcMap (http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=An_overview_of_ArcMap) is a comprehensive map-authoring application for ArcGIS Desktop (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=43). It is the central application for all map-based tasks including cartography, map analysis, and editing. |

| | |
|---|---|
| ArcSDE | ArcSDE (http://support.esri.com/index.cfm?fa=software.filteredGateway&PID=19) is an application server that facilitates storing and managing of spatial data in a database management system (DBMS) and makes the data available to many applications. ArcSDE allows you to manage spatial data in one of four commercial databases (IBM DB2, Informix, Microsoft SQL Server, and Oracle). |
| Channel | Channels provide quick access to key content for data categories, applications, and events. |
| Channel Editor | The Channel Editor is a component of GIS Portal Toolkit that allows you to create new subchannels, populate and manage channel content, and create external links. |
| Channel Steward | Channel stewards determine and maintain the authoritative data resources that are posted on the GIS portal channels. Both registered users and publishers can act as channel stewards if authorized by the portal administrator. Channel stewards typically are domain experts in a field. |
| Content Type | Content types, also known as resource types, denote what kind of file is being transmitted over the Web. |
| Discovery Mechanism | A way of finding servers on the network. |
| DNS Name | A domain name server (DNS) name is translated into an IP address, which is used to specify a computer. |
| Downloadable Data | Downloadable data is digital data that is intended for use with GIS software. The data can be presented in vector or raster format. |
| Dublin Core | The Dublin Core metadata element set is a standard for cross-domain information resource description. The Dublin Core metadata elements provide a standardized set of conventions to describe things online in ways that make information easy to find. Implementation of Dublin Core typically makes use of XML. |
| ESRI | Environmental Systems Research Institute, Inc., which designs and develops the world's leading GIS technology. |

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| Federal Geographic Data Committee (FGDC) | An organization established by the United States Office of Management and Budget responsible for coordinating the development, use, sharing, and dissemination of surveying, mapping, and related spatial data. The committee is composed of representatives from federal and state government agencies, academia, and the private sector. FGDC defines spatial data metadata standards for the United States in its Content Standard for Digital Geospatial Metadata and manages the development of the National Spatial Data Infrastructure. |
| File Transfer Protocol (FTP) | File transfer protocol is the protocol used for copying files to and from remote computer systems on a network using Transmission Control Protocol/Internet Protocol (TCP/ICP) such as the Internet. This protocol also allows users to use FTP commands to work with files such as listing files and directories on the remote system. |
| Gazetteer | A list of geographic place-names and their coordinates. Entries may include other information as well such as area, population, or cultural statistics. Atlases often include gazetteers, which are used as indexes to their maps. |
| Geocoding | A GIS operation for converting street addresses into spatial data that can be displayed as features on a map, usually by referencing address information from a street segment data layer. |
| Geographic Information System (GIS) | An integrated collection of computer software and data used to view and manage information about geographic places, analyze spatial relationships, and model spatial processes. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed. |
| Geographic Service | A geographic service is a Web service that performs basic geoprocessing tasks such as place-name searches, address matching, or routing. A geographic service uses SOAP to transfer information back and forth to clients and brings together two industry standard languages for communicating over the Internet, HTTP and XML. |
| Georeferencing | Aligning geographic data to a known coordinate system so it can be viewed, queried, and analyzed with other geographic data. Georeferencing may involve shifting, rotating, scaling, skewing, and in some cases warping, rubber sheeting, or orthorectifying the data. |

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| Geospatial One-Stop (GOS) | Geospatial One-Stop is an intergovernmental project managed by the Department of Interior to improve the ability of the public and government to use geospatial information to support the business of government and facilitate decision making. |
| GIS Portal Toolbar | The GIS Portal Toolbar allows you to open Web Map Context files created with the Map Viewer, inside of ArcMap. |
| Globally Unique Identifier (GUID) | In COM, a globally unique identifier is a 16-byte code that identifies an interface to an object across all computers and networks. Such an identifier is unique because it contains a time stamp and a code based on the network address hard-wired on the host computer's LAN interface card. These identifiers are generated by a utility program. |
| Graphical User Interface (GUI) | A software display of program options that allows a user to choose commands by pointing to icons, dialog boxes, and lists of menu items on the screen, typically using a mouse. This contrasts with a command line interface in which control is accomplished via the exchange of strings of text. |
| Health Check | Health checks are progress reports to ensure that your project or installation is running error free. The Health Check can be found at the following location: http://<machine name>/Portal/jsp/Admin/ healthCheck.jsp. |
| HTTPS | *See* Secure Hypertext Transfer Protocol. |
| JAR | Java Archive file is a ZIP file used to distribute a set of Java classes. It stores compiled Java classes and associated metadata that can constitute a program. |
| Live Data and Maps (Image Service) | Live Data and Maps is a dynamic service that allows direct interaction with map content, which is delivered in one of two ways: as a cartographic image or "snapshot" of a map or as compressed vector features that are streamed to you. Streamed features allow for greater client-side interaction including dynamic labeling, feature symbolization, and MapTip creation. You do not need to download anything to use live data; just add it to your map and begin exploring. |

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| Map Viewer | Map Viewer is a component of the Virginia GISData Portal that allows you to browse, navigate, and query map data; view multiple map services; change projections on the fly; and save map views. Map Viewer supports OGC, WMS, and WCS services. |
| Marker Symbol | A symbol used to represent a point location on a map. |
| Metadata | Information that describes the content, quality, condition, origin, and other characteristics of data or other pieces of information. Metadata for spatial data may describe and document its subject matter; how, when, where, and by whom the data was collected; availability and distribution information; its projection, scale, resolution, and accuracy; and its reliability with regard to some standard. Metadata consists of properties and documentation. Properties are derived from the data source, whose documentation is entered by a person. |
| Metadata Repository | A metadata repository is a central place where metadata is stored and maintained. |
| Metadata Synchronizer | A metadata synchronizer is the process by which properties of a dataset are read from the dataset and written into its metadata. |
| National Spatial Data Infrastructure (NSDI) | A federally mandated framework of spatial data that refers to U.S. locations only as well as the means of distributing and using that data effectively. Developed and coordinated by FGDC, NSDI encompasses policies, standards, procedures, technology, and human resources for organizations to produce and share geographic data. NSDI is developed by the federal government; state, local, and tribal governments; the academic community; and the private sector. |
| Node | In a geodatabase, the point representing the beginning or ending point of an edge, topologically linked to all the edges that meet there. |
| NSDI Clearinghouse Network | A community of digital spatial data providers that maintain NSDI Clearinghouse Nodes as part of NSDI. |
| NSDI Clearinghouse Node | An Internet server that hosts a collection of metadata and data maintained and stored on a computer server by a data provider. An NSDI Clearinghouse Node provides information about geographic data within the data provider's areas of responsibility. |

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| Offline Data | Offline data is materials that cannot be directly downloaded to your computer but can be ordered on- or offline from the publisher. |
| Other Documents | Within the publisher's Create Metadata functionality, this content type category includes geographic information stored in text fields, spreadsheets, or other formats. These documents are used in conjunction with geographic data. In many cases, they can be viewed and downloaded. |
| Portal | A portal is a site that provides personalized capabilities to its visitors and provides pathways to other content. |
| Publisher | A publisher can register metadata repositories and create, upload, and manage their metadata records in the GIS portal repository. Publishers are responsible for maintaining their metadata records and ensuring that the data services referenced in their metadata are current and accessible for GIS portal-related purposes. Publishers need to create an account before they can use the additional functionality. |
| Registered User | A registered user has access to the same functions as the anonymous user. In addition, they can save maps and searches and manage a user profile. Registered users need to create an account before they can use the additional functionality. |
| Resource Type | *See* Content Type. |
| Secure Hypertext Transfer Protocol (HTTPS) | Secure Hypertext Transfer Protocol is a URI scheme that is syntactically identical to the scheme normally used for accessing resources using HTTP. Using HTTPS indicates that HTTP is being used but with a different default port and an additional encryption/ authentication layer between HTTP and TCP. |
| Spatial Data Infrastructure (SDI) | Spatial data infrastructure is a framework of spatial data, metadata, users, and tools that are interactively connected to use spatial data in an efficient and flexible way. |
| Spatial Domain | Spatial domain is a constraint that sets the minimum and maximum values for the geometry attributes. There are a finite number of integers available in the system, so the x,y spatial domain is analogous to a square grid that always contains the same number of rows and columns. |

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| Static Map Image | A static map image is a finished map that is presented in any graphics format (e.g., GIS, .tif, .bmp, and MrSID). The content of the map image does not change with user requests as opposed to a map service. |
| Styled Layer Descriptor (SLD) | The Styled Layer Descriptor is an encoding for the Web Map Server specification and can be extended to allow user-defined symbolization of feature data. |
| Style Sheet | A file or form that provides style and layout information, such as margins, fonts, and alignment, for tagged content within an XML or HTML document. Style sheets are frequently used to simplify XML and HTML document design, since one style sheet may be applied to several documents. Transformational style sheets may also contain code to transform the structure of an XML document and write its content into another document. |
| Synchronization | The process of automatically updating certain elements of a metadata file. In geodatabase editing, the process of applying changes made from a replica to the relative replica in a replica pair. |
| Synchronizer | A synchronizer is a tool used during publication to process metadata that is published from ArcCatalog and ArcIMS to ensure that content is complete in the Virginia GISData Portal tables. |
| Uniform Resource Locator (URL) | Uniform resource locator is a synonym for uniform resource identifier. URL is a uniform syntax for global identifiers of network-retrievable documents (e.g., an Internet Web address is a URL). |
| United States Geological Survey (USGS) | The United States Geological Survey is a scientific agency of the United States government, which studies the landscape of the United States, its natural resources, and the natural hazards that threaten it. |
| Universally Unique Identifier (UUID) | A universally unique identifier is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the distributed computing environment (DCE). The intent of the UUIDs is to enable distributed systems to uniquely identify information without significant central coordination. |

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| Universal Resource Identifier (URI) | The addressing technology for identifying resources on the Internet for private intranets. URIs were originally defined as two types: uniform resource locators (URLs), which are addressed with network locations, and uniform resource names (URNs), which are persistent names that are address independent. |
| URL | *See* Uniform Resource Locator. |
| User | A user is one who uses a computer system or software application. |
| Validation Rule | A rule applied to an object to ensure that its state is consistent with the system that the database is modeling. |
| Validation | The process, using formal methods, of evaluating the integrity and correctness of data or a measurement. |
| VB Application | Microsoft Visual Basic (VB) for Applications is the development environment and language found in Visual Basic that can be hosted by applications. |
| WAF | Web Accessible Folder is a folder whose contents are accessible via a URL. |
| Web Catalog Service (CS-W) | The OpenGIS Web Catalog Service defines a common interface that enables diverse but conformant applications to perform discovery, browse, and query operations against distributed heterogeneous catalog servers. Web Catalog Service supports publishing and searching collections of metadata and related information objects. |
| Web Coverage Service (WCS) | The Web Coverage Service is an OGC standard Web service for the exchange of geospatial data. |
| Web Feature Service (WFS) | The OpenGIS Web Feature Service is an interface that allows requests for geographic features across the Web using platform-independent calls. |
| Web Map Context (WMC) | The Web Map Context is a companion to the OpenGIS Web Map Service, which describes how to save a map view composed of many different layers from different Web map servers. WMC specifies how a specific grouping of one or more maps, coming from one or more Web map services, can be described in a portable format for storage, use, and reuse within and between clients. |

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| Web Map Service (WMS) | An OGC Web Map Service produces maps of spatially referenced data dynamically from geographic information. This international standard defines a map to be a portrayal of geographic information as a digital image file suitable for display on a computer screen. WMS maps are generally rendered in pictorial format (e.g., JPEG). |
| Web Service Catalog | A collection of ArcGIS Server Web services. A Web service catalog is itself a Web service with a distinct location (URL) and can be queried to obtain the list of Web services in the catalog and their URLs. |
| World Geodetic System (WGS) | The World Geodetic System defines a reference frame for the earth for use in geodesy and navigation. |
| XML | Extensible Markup Language. Developed by W3C, this is a standardized general purpose markup language for designing text formats that facilitates the interchange of data between computer applications. XML is a set of rules for creating standard information formats using customized tags and sharing both the format and the data across applications. |

# Appendix B: —Frequently Asked Questions

**Q: What browsers does the GIS Portal Toolkit support?**

A: The GIS Portal Toolkit supports the following Web browsers:

Internet Explorer (version 5.5 or higher)
Netscape (version 7 or higher, excluding version 8)
Mozilla Firefox (version 1.0 or higher)

**Q: Can I upload metadata to the portal that was created with other software products?**

A: Yes, you can upload metadata to the portal that was created with other software products. However, the metadata you upload must be compliant with FGDC and ISO (19115 or 19139) standards.

**Q: Is the information I save private to my portal?**

A: Yes, your information is private to your portal. Others do not have access to your information.

**Q: How do I publish data?**

A: To publish data as a new user, you must first create a user account. During the registration process, request permission to become a publisher. If you are an existing user, notify the portal administrator via the feedback form on the portal home page, and express your interest in becoming a publisher. Once you are granted Publisher status, you are able to publish metadata that references your data, application, document, or data acquisition via an online form or a file (XML) upload.

# Appendix C: —Install Guide: GIS Portal Toolbar and ArcGIS Explorer Search Task

## GIS Portal Toolbar

The GIS Portal Toolbar for ArcMap is a desktop extension of Virginia GISData Portal. It provides interoperability between the GIS desktop and the GIS portal. When added to ArcMap, this toolbar allows you to search a GIS portal for metadata. For any of the returned records in a result set, you can view the metadata either in XML format or in a styled view. If any of the found records are of type Live Data and Maps, you have the additional functionality of being able to add those services to your map. The toolbar can also open Web Map Context files created by a GIS portal Map Viewer.

### Installation

You can install the GIS Portal Toolbar on the portal site in the table of contents or from ESRI (http://www.esri.com/software/arcgis/expentions/gis-portal-toolbar/index.html).

1. Log in to the GIS portal.
2. Click Download Portal Toolbar in the table of contents. You can also access the file to download from the ESRI home page: click Products > All Products > GIS Portal Toolbar for ArcGIS.
3. Download the Toolbar ZIP file.
4. Extract the ZIP file to a temporary folder and run setup.exe.
5. Open ArcMap.
6. Click Tools on the menu and click Customize.
7. Browse the Toolbars list for Portal Toolkit Commands. Place a check next to Portal Toolkit Commands.
8. Click Close.

   The Portal Toolbar will appear in your ArcMap toolbar.

## ArcGIS Explorer Search Task

The ArcGIS Explorer search task is a component of GIS Portal Toolkit that is accessible only to registered users. When added to ArcGIS Explorer, the search task allows you to search a GIS portal for metadata. You can search the catalog for data and connect with ArcGIS Server. Additionally, the ArcGIS Explorer search task is a free tool through the Virginia GISData Portal.

## Installation

1. Log in to the GIS portal.
2. Click Download ArcGIS Explorer Search Task in the table of contents.
3. Download the search task ZIP file and extract it to a temporary folder.
4. Open the PtkSearch.nmf file in Notepad and find the <Download Location> element, located on or around line 26.
5. Change the value of this element to point to the location of your GPTSearchTask.dll file. The default value is file://C:\Student\Ex10\GPTSearchTask\PTKSearchTask.dll.
6. Save the file and click Close.
7. Next, open ArcGIS Explorer (Start > All Programs > ArcGIS > Explorer).
8. Click Tools on the menu and click Manage Tasks.
9. Click Get Tasks.
10. Select Task Files from the left column.
11. Click the Look in drop-down menu and navigate to PTKSearch.nmf.
12. Click PTKSearch.nmf to highlight it and click Open.

    You are returned to the Manage Tasks dialog box.
13. Select Search for Data (1.0.0.1) from the All available tasks box on the left side, and add the task to the Tasks available in this map box on the right side.
14. Click OK.

    The ArcGIS Explorer search task is added to ArcGIS Explorer.

# Appendix D: —Content Type Domain Values

The Content Type codes supported by GIS Portal Toolkit are listed below. *Only one content type can be defined for each resource*.

| Content Type Code | FGDC and ISO Value |
|---|---|
| 001 | Live Data and Maps |
| 002 | Downloadable Data |
| 003 | Offline Data |
| 004 | Static Map Images |
| 005 | Document, Other Documents |
| 006 | Applications |
| 007 | Geographic Services |
| 008 | Clearinghouses |
| 009 | Map Files |
| 010 | Geographic Activities, Geographic Activity |

Note: The domain is actually broader than this and is based on empirical analysis of metadata content type descriptions within a portal catalog. The content type description string is lowercased and stripped of all white space prior to performing any comparison. In addition, the content type description is compared to see if it *starts with* a particular value and not if it *equals* a particular value. Thus, live data, live data and Maps, live data and maps ARCIMS image service, and so forth, would all be valid content type descriptions.

# Appendix E: —Virginia Metadata Lite Standard

Please download the Virginia Spatial Metadata Lite document, located on the Portal Usage channel at GISData.Virginia.gov, for a current copy of the specification.

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# Index

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## O



## P



## R



## S



## T



## U



## V



## W



## X